

# **SSB ELECTRONIC USA**

## **STM-13C 13-CM (2304 MHz.)**

### **Transmit Mixer**

The STM-13C is a state of the art 13-cm transmit converter that will provide 1 watt of RF output on 13cm's with excellent linearity. The STM13-C requires approximately 10mW. of LO injection at 2160Mhz. This output is available on the companion UEK-13 receive converter.

The STM-13C is constructed on microwave teflon printed circuit board material to achieve low losses at 2304 MHz. In addition, the latest design techniques have been employed to yield a transmit converter of unmatched performance. The STM13-C can be provided in any frequency range between 2000....2500MHz. and is ideally suited for FM-TV applications.

The STM-13C features a built in adjustable IF attenuator, a push pull bipolar mixer, four stages of linear amplification and requires an IF drive signal of between 20....500mW. Application of higher drive levels will result in damage to the TX mixer. Always insure that the internal attenuator has been set to maximum attenuation prior to applying drive for the first time. The internal attenuator is at maximum attenuation when the wiper is turned toward the ground side of the pot.

The STM-13C requires 13.8V DC for proper operation. Voltage should be provided to this unit during transmit cycles only

#### **TECHNICAL DATA**

<b>OUTPUT FREQUENCY</b>	<b>2304....2306</b>	<b>MHz.</b>
<b>IF INPUT FREQUENCY</b>	<b>144....146</b>	<b>MHz.</b>
<b>DRIVE REQUIREMENTS</b>	<b>20....500</b>	<b>mW.</b>
<b>RF OUTPUT (typ.)</b>	<b>1</b>	<b>W.</b>
<b>VOLTAGE REQUIREMENTS</b>	<b>13.8</b>	<b>VDC</b>

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## UEK-13P3C 13-CM (2400 MHz.) Receive Converter

The UEK-13P3C is a complete state of the art 13-cm receive converter with a self contained LO oscillator string.

The UEK-13P3C is constructed on teflon printed circuit board material to achieve low losses and an excellent noise figure at 2400 MHz. In addition, the latest techniques in SMD technology have been employed to yield a converter of unmatched performance.

The UEK-13P3C features a microwave GaAsFET preamplifier followed by a 3 pole filter and an active GaAsFET Mixer which combined yields a noise figure of under 1.8dB. If additional conversion gain is required, it is possible to add an additional MMIC IF amplifier after the GaAsFET mixer. Contact us for additional information.

The LO string utilizes a 94MHz . 5th overtone crystal which is multiplied 24 times to achieve a LO injection frequency of 2256MHz. A 94MHz x 3 x 2 x 2 x 2 Local oscillator multiplier scheme has been employed. Each LO multiplier stage is filter coupled to insure a clean spectrum at the target frequency.

We at SSB Electronic USA advise that the following procedure be utilized whenever practical when utilizing a multi-mode radio. Turn your radio on first --- then connect the IF output of the converter to your radio. Some radios will transmit a high power spike (10 - 20 watts!) when initially turned on . This spike is sufficient to destroy the GaAsFET mixer.

### TECHNICAL DATA

INPUT FREQUENCY	2400..2402 MHz.
IF FREQUENCY	144....146 MHz.
NOISE FIGURE	<1.8 Db.
VOLTAGE REQUIREMENTS	13.8 VDC

